

REMARKS

This is a response to the Office Action mailed on May 11, 2009. Claims 1-14 are presented for examination. Claims 1-7 have been amended to state more clearly that which Applicant regards as his invention. No new matter has been added by these amendments.

Specification

The Examiner objected to the specification as lacking antecedent basis for certain claim terms, stating that “heating the tube at a higher temperature than a softening temperature is not mentioned in the specification, nor is the optimizing of the inner diameter.”

Applicant first wishes to point out that the manner in which these features are claimed has been changed in amended claim 1. For example, the word “optimized” no longer appears in the claim. Secondly, the original specification does provide support or antecedent basis for these features as follows:

Page 8, line 10 of the international publication states that a softening temperature is 1600°C. Lines 6-8 of the same page state that, during the collapsing process 200 the tube is heated at a temperature of 2000 to 2400°C. Therefore, it is heated at a temperature higher than a softening temperature. The same applies to the etching and collapsing process (see p. 11, line 10). The same applies also to the closing process, which as described at p. 13, lines 19-22 is the same as the collapsing process 200, but executed in the opposite direction.

Regarding optimizing the inner diameter, at p. 12, lines 16-18 it is disclosed that the inner diameter of the tube is kept within the range of 2 to 4 mm between the etching-and-collapsing process and the closing process.

Claim Rejections Under 35 U.S.C. §112

Claims 1-14 were rejected as indefinite under 35 U.S.C. § 112, second paragraph. The claims have been carefully reviewed and amended as deemed necessary to ensure that they conform fully to the requirements of Section 112, second paragraph, with special attention to the points raised in the Office action.

Specifically, the following changes have been made in the claims: The terms “clad/core” and “etching/collapsing” have been changed to “clad and core” and “etching and

collapsing,” respectively. The expression “heating at a temperature” has been changed to “heating to a temperature.” The recitations of “softening temperature” and “higher temperature” have been amended to clarify the temperature relationships. That is, the “softening temperature” is the softening temperature of the deposition layers, and “higher temperature” refers to some temperature higher than this. “The inner diameter” has been changed to “an inner diameter.”

Further regarding “inner diameter”: It is well-known in the art that the tube is approximately circular, and it is common to refer to the “inside diameter” of such a tube. The “ovality” referred to on p. 8 is an undesirable characteristic which is sought to be minimized. Therefore, Applicant believes that stating a range of “inner diameter” is sufficiently definite. Note that Pluijms (US4,793,843) uses the term “inside diameter” at col. 3, line 42.

The recitation “minimizing an index dip existing at a center of the optical fiber preform core” has been changed to “decreasing or eliminating an index dip occurring at a center of the optical fiber preform core.” The manner of expressing ranges of ratios has been changed in response to the Examiner’s comment. Claims 2 and 3 have been amended per the Examiner’s comments.

It is believed that the rejections under Section 112, second paragraph have been obviated by these amendments, and the withdrawal of these rejections is therefore respectfully requested.

Claim Rejections Under 35 U.S.C. § 102(b)

Claims 1-3, 5, 6, 8, 11, 13 and 14 were rejected under 35 U.S.C. § 102(b) as anticipated by Pluijms (US4,793,843).

It is well settled that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in ... [the] claim.” Manual of Patent Examining Procedure (MPEP) § 2131 (8th ed., October 2005); and *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Pluijms does not disclose an etching and collapsing process, followed by a closing process, as claimed in the present application. Instead, Pluijms discloses only etching during a closing process. *See* Pluijms, claim 1. Because Pluijms does not disclose an etching and

collapsing process followed by a closing process, the Examiner's anticipation analysis with respect to Pluijms relies on the Pluijms etching-while-closing process to anticipate *both* the etching-and-collapsing process *and* the closing process claimed in the present application. The Examiner justifies this by stating that the present application "has not set forth any sort of boundary between the "etching/collapsing process" and the "closing process." Office action, p. 6.

However, applicants have amended claim 1 to more clearly distinguish the boundaries between processes. Specifically: 1) The etching and collapsing process is claimed as proceeding "until the tube has an inner diameter within the range of 2 to 4 mm"; and 2) the closing process is claimed as occurring "after the etching and collapsing process."

Because claim 1 of the present application recites that the closing process occurs "after the etching and collapsing process," it is clear that the closing process does not include etching, and therefore cannot be anticipated by the final step of Pluijms' process, on which the Examiner relies, which involves "passing a gaseous *etchant* through the central duct while the duct is closing." Pluijms, col. 4 lines 34-35 (emphasis added). See also present application Fig. 4b (showing etching gas 13 present during the etching and collapsing process) and Fig. 5 (etching gas 13 not present during closing process).

Claim 1 is therefore patentable over Pluijms, and the rejection of claim 1 should be withdrawn. Because claims 2, 3, 5, 6, 8, 11, 13, and 14 are dependent claims depending from claim 1, they are also patentable, for at least this reason, and the rejections of these claims should also be withdrawn.

Claim Rejections Under 35 U.S.C. § 103

Claims 4, 7, 9, 10, and 12 were rejected under 35 U.S.C. § 103(a) as obvious over Pluijms in view of Keim (US5,160,520) and French (US4,154,591).

Claims 4, 7, 9, 10, and 12 are dependent claims depending from claim 1 which, as discussed above, is patentable. The rejections of these claims should therefore be withdrawn, for at least this reason.

Further, the Examiner has not actually stated a *prima facie* case of obviousness for these claims, but rather has stated generally that the prior art discloses various parameters of these claims to be "result-effective variables." However, detailed examination of the prior art reveals that, for example, French teaches away from the negative inner pressure of claim 10 by teaching only positive or zero pressures (see French, Table 1) and teaches away from the

tube rotational velocity of 15 to 30 rpm recited in claim 7 by teaching a rotational velocity of “85 +/- 20 rpm” (col. 3, line 21). Therefore, at least claims 7 and 10 are also patentable for the additional reason that the prior art teaches away.

Conclusion

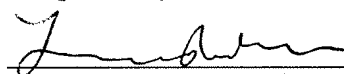
In view of the above, applicants respectfully submit that the present application is in condition for allowance. A favorable disposition to that effect is respectfully requested.

No fees are believed to be due with this submission. Please charge any fee that may be due or credit any overpayment to Jones Day Deposit Account No. 50-3013.

Should the Examiner have any questions or comments concerning this submission, he is invited to call the undersigned at the phone number listed below.

Date: August 11, 2009

Respectfully submitted,



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